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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,025	08/27/2003	William W. King	PII-28302/04	5132
25006	7590	09/21/2006		
GIFFORD, KRASS, GROH, SPRINKLE & CITKOWSKI, P.C PO BOX 7021 TROY, MI 48007-7021			EXAMINER ZIMMERMAN, JOHN J	
			ART UNIT	PAPER NUMBER

1775

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/649,025

Applicant(s)

KING, WILLIAM W.

Examiner

John J. Zimmerman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 8-10, 14-22 and 31-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-10, 14-22 and 31-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## SECOND OFFICE ACTION

### *Amendments*

1. This Second Office Action is in response to the "AMENDMENT" received June 26, 2006. Claims 8-10, 14-22 and 31-41 are pending in this application.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 8-10, 14-16, 20-21, 31-35 and 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura (JP 06-299312).
4. Okumura discloses steel having an iron-aluminide intermetallic alloy layer with a thickness of about 1 micron or less (but with comparative examples of up to 5 microns - e.g. see comparative examples in Table 2) and an aluminum content of 20-80 wt.% (e.g. see paragraph [0014] and Table 2). The ability of the steel substrate to be miscible with molten zinc would be inherent to the composition of the article. An upper zinc layer is formed (e.g. paragraph [0010]).

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Although Okumura claims an iron-aluminide intermetallic alloy layer thickness of 1 micron or less and applicant claims a thickness of "greater than 1 micron" (e.g. claim 8, line 4), the thicknesses of 1 micron and "greater than 1 micron" are so close that, unless shown otherwise, one of ordinary skill in the art would not expect there to be a patentable distinction between the properties of the two thicknesses. See MPEP 2144.05 for the obviousness of range endpoints that approximate each other. In any event, Okumura clearly shows comparative examples having intermetallic layers of 1.5 microns, 2 microns, 3 microns and 5 microns (e.g. see the comparative examples in Table 2). See MPEP 2123 for use of comparative embodiments to reject. Okumura may differ from the claims in that Okumura may not specify that the steel used in his invention is "mild" steel (e.g. see claim 8, line 2), but in view of the context of Okumura, it would have been obvious to one of ordinary skill in the art at the time the invention was made that any type of conventional steel used for building materials, including mild steels, would be appropriate for his invention. Regarding the thicknesses of the zinc coatings in some of the claims, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the thickness of the zinc coating layer to meet the life time and environmental conditions expected of a particular steel article. Regarding claim 41, barring evidence that a tube shape is a patentable distinction, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the corrosion resistant sheet of Okumura in any conventional form that would be used for building materials. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

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5. Claims 8-10, 14-22 and 31-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura (JP 06-299312) in view of applicant's disclosure of the prior art.

6. Okumura discloses steel having an iron-aluminide intermetallic alloy layer with a thickness of about 1 micron or less (but with comparative examples of up to 5 microns - e.g. see comparative examples in Table 2) and an aluminum content of 20-80 wt.% (e.g. see paragraph [0014] and Table 2). The ability of the steel substrate to be miscible with molten zinc would be inherent to the composition of the article. An upper zinc layer is formed (e.g. paragraph [0010]). Although Okumura claims an iron-aluminide intermetallic alloy layer thickness of 1 micron or less and applicant claims a thickness of "greater than 1 micron" (e.g. claim 8, line 4), the thicknesses of 1 micron and "greater than 1 micron" are so close that, unless shown otherwise, one of ordinary skill in the art would not expect there to be a patentable distinction between the properties of the two thicknesses. See MPEP 2144.05 for the obviousness of range endpoints that approximate each other. In any event, Okumura clearly shows comparative examples having intermetallic layers of 1.5 microns, 2 microns, 3 microns and 5 microns (e.g. see the comparative examples in Table 2). See MPEP 2123 for use of comparative embodiments to reject. Okumura may differ from the claims in that Okumura may not specify that the steel used in his invention is "mild" steel (e.g. see claim 8, line 2), but in view of the context of Okumura, it would have been obvious to one of ordinary skill in the art at the time the invention was made that any type of conventional steel used for building materials, including mild steels, would be appropriate for his invention. Okumura may differ from some of the claims in that Okumura may not disclose the further use of a phosphating agent crystalline comprising hexafluoro-

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titanium phosphate and an aluminum particulate filled cured epoxy overlayer, but applicant admits that it is conventional in the art to use a combination of barrier coatings and galvanic coatings in a multilayer laminate coating in order to further protect steel (e.g. see Background of the Invention - page 3, first full paragraph) and applicant also admits that phosphating agent crystalline comprising hexafluoro-titanium phosphate and an aluminum particulate filled cured epoxy overlayer are commonly used in the prior art to increase corrosion resistance (e.g. see Background of the Invention - page 2, first full paragraph; page 3, line 21 - page 4, line 23). In view of applicant's disclosure of the prior art, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use one of or a combination of phosphating agent crystalline comprising hexafluoro-titanium phosphate and an aluminum particulate filled cured epoxy coatings on the plated steel of Okamura because applicant admits that combinations of these types of coatings are generally used in the prior art to further increase the corrosion resistance of steel articles. Regarding claim 41, barring evidence that a tube shape is a patentable distinction, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the corrosion resistant sheet of Okumura in any conventional form that would be used for building materials. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). In addition, applicant admits that piping is a conventional configuration in this field (e.g. see Background of the Invention - page 2, lines 1-4). Regarding the thicknesses of the zinc coatings in some of the claims, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the thickness of the zinc coating layer to meet the life time and environmental conditions expected of a particular steel article. Applicant discloses that this

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type of thickness optimization is conventional (e.g. see Background of the Invention - sentence spanning pages 2 and 3).

7. Regarding the use of applicant's disclosure of the prior art in rejections, it is axiomatic that consideration of the prior art cited by the examiner must, of necessity, include consideration of the admitted state of the art found in applicant's specification, *In re Davis*, 305 F.2d 501, 134 USPQ 256 (CCPA 1962); *In re Hedges*, 783 F.2d 1038, 228 USPQ 685 (Fed. Cir. 1986).

Admitted knowledge in the prior art may be used in determining patentability of the claimed subject matter, *In re Nomiya*, 509 F.2d 566, 184 USPQ 607 (CCPA 1975). Regarding the use of comparative examples in the prior art, all the disclosures in a reference must be evaluated for what they fairly teach one of ordinary skill in the art even though the art teachings relied upon are phrased in terms of a non-preferred embodiment or even as being unsatisfactory for the intended purpose, *In re Boe*, 148 USPQ 507 (CCPA 1966); *In re Smith*, 65 USPQ 167 (CCPA 1945); *In re Nehrenberg*, 126 USPQ 383 (CCPA 1960); *In re Watanabe*, 137 USPQ 350 (CCPA 1963).

### ***Response to Arguments***

8. Applicant's arguments and amendments filed June 26, 2006 have been fully considered but they are not persuasive with regards to the remaining rejections.

9. As noted in the rejections applying Okumura (JP 06-299312), although Okumura claims an iron-aluminide intermetallic alloy layer thickness of 1 micron or less and applicant claims a

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thickness of "greater than 1 micron" (e.g. claim 8, line 4), the thicknesses of 1 micron and "greater than 1 micron" are so close that, unless shown otherwise, one of ordinary skill in the art would not expect there to be a patentable distinction between the properties of the two thicknesses. See MPEP 2144.05 for the obviousness of range endpoints that approximate each other. In any event, Okumura clearly shows comparative examples having intermetallic layers of 1.5 microns, 2 microns, 3 microns and 5 microns (e.g. see the comparative examples in Table 2). See MPEP 2123 for use of comparative embodiments to reject. In addition, although Okumura may differ from the claims in that Okumura may not specify that the steel used in his invention is "mild" steel (e.g. see claim 8, line 2), in view of the context of Okumura it would have been obvious to one of ordinary skill in the art at the time the invention was made that any type of conventional steel used for building materials, including mild steels, would be appropriate for Okumaru's invention.

### *Conclusion*

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

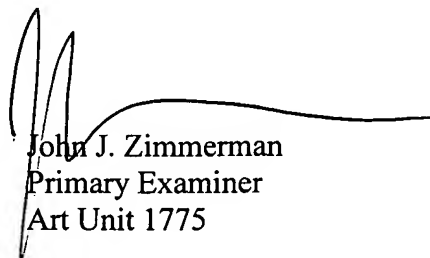


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calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Zimmerman whose telephone number is (571) 272-1547. The examiner can normally be reached on 8:30am-5:00pm, M-F. Supervisor Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



John J. Zimmerman  
Primary Examiner  
Art Unit 1775

jjz  
September 12, 2006